In mathematics, the *[dot product](https://en.wikipedia.org/wiki/Dot_product)* is denoted using a dot. It is an algebraic operation that takes two equal-length sequences of numbers and returns a single number.

For a = [a1, a2, ..., an] and b = [b1, b2, ..., bn] *dot product* is calculated as follows:  
a · b = a1 \* b1 + a2 \* b2 + ... + an \* bn.  
If n = 0, then a · b = 0.

Find *dot product* of the given arrays a and b.

**Example:**

Dot\_product([1, 2, 3], [1, 2, 3]) = 1 + 2 \* 2 + 3 \* 3 = 14

* **[input] array.integer a**
* **[input] array.integer b**
  + Array of the same length as a.
* **[output] integer**
  + *Dot product* of a and b.

<https://codefights.com/challenge/6udJopoeooFH4NnXy>

static int Dot\_product(int[] a, int[] b)

{

int sum = 0;

for (int i = 0; i < a.Length; i++)

{

sum += a[i] \* b[i];

}

return sum;

}